

*Note: Dr. Gross's Lecture, 1875.
With the author's kind regards.
J. H. K. 1875*

GROSS (S.D.)

A DISCOURSE
ON
BLOODLETTING CONSIDERED AS A THERAPEUTIC
AGENT;

DELIVERED BEFORE THE
AMERICAN MEDICAL ASSOCIATION,
AT ITS MEETING AT
LOUISVILLE, KENTUCKY,
MAY 5, 1875.

BY
S. D. GROSS, M.D., LL.D., D.C.L. Oxon.,
PROFESSOR OF SURGERY IN THE JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.

EXTRACTED FROM THE
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A DISCOURSE ON BLOODLETTING CONSIDERED AS A THERAPEUTIC AGENT.

I DESIRE to engage the attention of the Association, with a view of offering some remarks upon one of the lost arts of the profession. I allude to bloodletting considered as a therapeutic agent. If, in what I am about to say, it shall be my good fortune to make a few converts to the opinions which I have been led to form upon the subject, and, above all, induce this assembly of eminent men, to revise and extend their knowledge of it, I shall not only be greatly rejoiced, but feel that the time devoted to its preparation has not been misspent.

How much this agent has been neglected, nay positively ignored, by the profession during the last thirty years, is too well known to require any comment; how much it was formerly abused is equally a matter of record, if not a lasting shame. Regarded for a long time as the great, if not indispensable, element in the treatment of inflammation, it has gradually sunk so low in the estimation of practitioners that few, if any, have the courage even to hint at its necessity, much less to employ it, lest they should alarm their patients, and thus bring upon themselves public odium. If, now and then, one is bold enough to bleed, he is sure to be taken to task about it, if he is not actually denounced as a murderer.

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When a remedy, once so popular, and regarded for nearly 2000 years by the most eminent and enlightened men as so essential to success in the treatment of disease, has fallen into utter desuetude, it behooves us, especially the older members of the profession, to pause, and to inquire seriously whether there is not something wrong in all this depreciation; whether we have not fallen into the opposite error, and condemned a remedy which, if judiciously employed, is capable of doing vast good. Extremes are always dangerous, and certainly nowhere more so than in the practice of medicine. We may well ask ourselves the question, "Watchman, what of the night?" for every one must perceive that it has a

broad and profound meaning here. If the modern practice be right, then the old practice must have been wrong, deadly wrong; and in so far at least we must be wiser than our fathers, and entitled to the gratitude of mankind for our superior knowledge and skill. As a young man I well remember that every physician was accustomed to carry a lancet in his pocket, ready for use in any emergency, however unexpected. It was an inseparable companion. In every large city of the Union there were certain men who followed bleeding, leeching, and cupping as a specialty. How the matter now stands everybody knows. The lancet is an obsolete instrument, the office of the bleeder has departed, venesection has long been unfashionable, and few of the present generation of medical men would, if called upon, be able to open a vein in a scientific and creditable manner. Bloodletting, as I have already declared, is, emphatically, one of the lost arts.

How this extraordinary change in sentiment and practice was brought about, by what influence, agency, authority, philosophy, logic or mode of reasoning, is a matter worthy of brief inquiry. The causes, so far as they are patent to my mind, are mainly four: first, the influence or tyranny of authority soon passing into more or less extensive fashion; secondly, the indiscriminate employment of the lancet in the days of what has been termed, not inappropriately, the Sangrado practice; thirdly, a more accurate knowledge of the nature and seat of diseases; and, lastly, the use of certain remedies, unknown a third of a century ago, but now of general, if not universal, resort, in the treatment of inflammatory affections.

1. The influence of authority annually slays millions of human beings. Its pernicious effects upon human life, in its individual and collective relations, are seen and felt in every direction; in the construction of our dwellings, in our habits and occupations, in our dress, in our social entertainments, in our amusements, in our food and drink, and in a thousand other ways. Of its malign influence in our profession examples daily fall under our observation, as the result of pernicious doctrines and practices. Superstition and fanaticism have kept the world in a state of intellectual bondage from the earliest records of society down to the present moment. The spiritism of the present day had its counterpart in the witchcraft of three centuries ago, fortunately without the hangman's halter. Every age has its peculiar absurdities, characteristic of the minds of some of its people. Mesmerism deluded thousands of persons. The metallic tractors of Perkins enjoyed for a time a

world-wide notoriety. Homœopathy is still at work in deluding people. Clairvoyance has many devout adherents. Berkeley, in the middle of the last century, effected many wonderful cures with the aid of his tar water. For upwards of one hundred years the lancet enjoyed unlimited sway. Everybody was bled. Surgeons during the last dozen years have had carbolic acid on the brain as a dressing in wounds and other injuries. Broussaism, Cookeism, and the blue pill of Abernethy each had a reign of at least a quarter of a century. For an equally long period the medical mind of Italy was agitated by the tartar-emetic treatment of Rasori and his followers. Thompsonianism, or the lobelia and Cayenne pepper treatment, is not yet entirely extinct on this continent, although its days were numbered long ago. For nearly a third of a century the doctrine of a change of type in disease has tyrannized over the minds of medical men, and exerted a controlling influence upon their practice. Of all these delusions, the latter, often called Toddism, after Dr. Todd, its author, has exercised the most perverse and baneful effects upon civilized society. Ensconcing itself behind a false position, it has literally enslaved the medical world, entrapping alike the wise and the foolish, and sweeping over human life with a force equal to that of the most destructive hurricane. Unlike the doctrine of sthenic and asthenic diseases of Dr. John Brown, of Edinburgh, who, in the latter part of the last century, enjoyed such a wide celebrity as a medical reformer, it assumes that all maladies are of a low type, imperatively demanding the use of stimulants for their successful management. It countenances no half-way measures. The patient must be upheld by stimulants or he must die. Now and then, perhaps, a few leeches may be tolerated, but only in very exceptional cases, where there is not much depression of the vital powers. Who and what Dr. Todd, the author of this system of medicine, was, it would be needless to inquire. Everybody knows that he was one of the ablest writers and clinical teachers which this century has produced; but that he was a profound thinker I doubt, and it is well to bear in mind that the patients at King's College Hospital, London, of which he had charge, were persons in the lower walks of life, broken down by overwork, privation, and various forms of intemperance, and therefore unable to bear depleting remedies. Such patients as Dr. Todd had are to be found in the wards of every eleemosynary institution in Europe and in this country. It was from a study of this class of cases that this

famous man, in an evil hour, deduced the absurd doctrine of a change of type in disease; I say absurd, for if there ever was any thing absurd this doctrine most assuredly deserves that name.

Who that has any knowledge of the human constitution as it is daily met with in our intercourse with our fellow-citizens, in the various pursuits of life, will lend credence to such an idea, I had almost said, to such a slander? I assert, without the fear of successful contradiction, that man's power of endurance in health and disease is not one particle less than it was fifty years ago, when depletory measures, of every form, were the order of the day, when, in fact, it would have been deemed derogatory to a physician's character to let a patient die without the aid of such remedies. The exploits performed during our late terrible war alone are sufficient to settle this question. Never, since man battled with man for national supremacy, were there so many rapid, laborious, and brilliant marches executed in so short a time as there were on both sides of the line. The exploits of the soldiers of Alexander, Hannibal, Cæsar, and Bonaparte fade into comparative insignificance by the side of those of some of our generals. Our laborers, farmers, miners, hewers of wood and carriers of water, mechanics, artisans, and professional men evince no evidence of decline in muscular power or mental endurance. Our sailors are as hardy a race of men as they were in the days of Sir Francis Drake or Captain Cooke.

If we look at the habits and modes of life of the people at the present day it will be found, if I do not greatly err, that they do not differ in any essential manner from those of a third of a century ago. The different classes of men and women, in city and in country, live very much as they did in my boyhood, using the same kind of food and drink, pursuing similar occupations and amusements, and exercising as much control over their appetites and passions generally as their fathers and mothers did. If there are any differences in any of these particulars, they are certainly not well marked, or so radical in their character as to diminish, in any material degree, the power of endurance of our people in health and disease. On the other hand, owing to the more extensive cultivation of our soil, the destruction of our forests, the draining of our marshes, and the greater attention paid to the study of hygiene, our people, especially those in the rural districts, are much more exempt from the diseases caused by the noxious exhalations from the earth's surface, so prevalent in newly settled countries, and so

pernicious in their effects upon the constitution, than they were in the early days of my white- and bald-headed contemporaries.

Do not men during accidents and surgical operations, and women during parturition, often lose enormous quantities of blood, and yet frequently make excellent recoveries? In epistaxis, hemoptysis, and hematemesis, this fluid is often largely poured out, and yet it is seldom that we hear of a person dying from the effects of its loss.

In the face of such facts as these, and a hundred others that might be adduced if time permitted, the doctrine of a change of type in disease must fall to the ground as utterly untenable.

The influence of fashion is not limited to our profession. We all recollect how the crinoline of the French Empress, invented to conceal a condition of which most ladies are so proud, enslaved the female mind, until every woman, married and single, considered it as an indispensable article of dress. A sofa, however spacious, was hardly long enough for a woman thus arrayed to sit upon. How the fashion has changed within the last six or eight years is familiar to everybody. Now the dress is so narrow as to show the outline of the person, and to compel the greatest care in progressing, lest the fair wearer should trip and tear her garments. Even diseases occasionally become fashionable. When Louis XIV. was laboring under anal fistule, this disgusting malady became at once the fashionable ailment of his debauched court. The use of enemata was cultivated as one of the fine arts in France in the time of Molière, who lashed the faculty without mercy for its follies and extravagances.

2. The indiscriminate employment of the lancet in former days did much to bring bloodletting into discredit, not only with the better thinking class of physicians but the public at large. "We cure the sick," says Gui Patin, a Professor in the Royal College of France, "when over eighty years old by bloodletting, and also infants of not more than two or three months, with as much success and as little inconvenience." Rush, the great champion of this operation on this side of the Atlantic, bled too, indiscriminately, I had almost said, remorselessly, at all periods of life, the young, the middle-aged, and the old, in all kinds of diseases, in the eruptive fevers, in fever and ague, in puerperal fever, in inflammations, in injuries, in hemorrhages, and even in anemia, often taking immense quantities of blood, and repeating the operation six, eight, or even a dozen times in the same patient. In short, he and his followers

used to bleed in every possible disorder until, in many cases, no more blood would flow because there was none left. That such practice would at length work out its own destruction is what might reasonably have been expected. It rang its own knell.

3. That we are much better acquainted with the nature and treatment of diseases than our fathers were, is a fact so universally accepted as to require no argument in its support. Our progress in this respect, during the last forty years, has simply been marvellous; and to nothing are we so much indebted for these improvements as to the study of pathological anatomy and histology, and the astounding developments of chemical science.

4. That the treatment of diseases has been greatly simplified within the period above specified is familiar to every member of the profession. Homœopathy, by the absurdities of its doctrines and primitive practices, long ago demonstrated to the world that most of its cures are effected spontaneously through nature's restorative powers alone, while the patient's mind is medicated with the decillionth part of a drop or a grain of medicine; and in comparatively recent years two eminent medical philosophers, Professor Bigelow, of Boston, and Sir John Forbes, of London, showed us by a series of admirably conducted observations that certain diseases, as smallpox, scarlatina, measles, typhus and typhoid fevers, are self-limited in character, and, therefore, not to be materially, if at all, abridged in their course by any plan or means of medication whatever. A third of a century ago the only so-called depressants, aside from the use of the lancet, were tartar emetic, calomel, and digitalis, the latter of doubtful efficacy in any case, and the first often exhibited without due discrimination. Of aconite and veratrum viride, now so universally employed as antiphlogistic agents, we were totally ignorant. These two medicines, as I shall endeavor to prove by and by, although frequently of immense service in the treatment of inflammatory affections, are incomparably inferior to bloodletting.

Believing that these are the principal, if not the only, reasons which have led to the abandonment of bloodletting as a therapeutic agent, I propose now to speak of the operation itself, and to point out, first, the classes of diseases to which it is more especially applicable; secondly, the period at which it should be performed to yield the greatest amount of good; and, lastly, its mode of action.

Blood may be abstracted in different ways; as, first, by venesection.

tion; secondly, by leeches and cups; thirdly, by incision, scarification, or puncture; and, fourthly, by arteriotomy. The latter operation is so difficult of performance that few practitioners are willing to attempt it. There are cases, as in violent inflammation of the brain, eye, and ear, in which it is supposed to exercise a peculiarly beneficial influence; but, generally speaking, it is quite certain that venesection, if properly executed, answers every purpose, even in the affections here specified. Similar remarks are applicable to bleeding at the jugular vein, also usually a difficult and, sometimes, even a dangerous operation.

The diseases to which bloodletting is more particularly applicable are the different inflammations, acute and chronic, general bleeding being best adapted to the former, and local to the latter. Hippocrates and his immediate followers bled largely in pneumonia and pleurisy; and Sydenham, Rush, Louis, Drake, and many others, often took immense quantities of blood in the treatment of these maladies. In acute inflammation of the eye, in robust subjects, bleeding is often indispensably necessary to save the affected organ. Who would hesitate to draw blood largely, under similar circumstances, in acute inflammation of the brain and its envelopes, in acute pericarditis or endocarditis, in hepatitis, splenitis, gastritis, enteritis, peritonitis, cystitis, metritis, or orchitis? Stricture of the urethra would be much less frequent if young men, laboring under severe gonorrhœa, were freely bled at the beginning of the attack. In traumatic affections of the joints, unattended with loss of blood or severe shock, the abstraction of blood would often prevent ankylosis, so common under the present system of treatment. The spasm, which is so often present in recent fractures, especially in those of the leg and thigh, is more readily controlled by venesection, followed by a hypodermic injection of morphia, than by any other agent I have ever tried.

In chronic inflammation bloodletting is often an indispensable remedy. Even the most ultra advocate of the stimulant method of treatment will not hesitate to employ it when destructive action is gradually, but surely, undermining structure and function. The abstraction of five, eight, or even ten ounces of blood in chronic pneumonia and pleurisy, especially when associated with severe pain and obstructed respiration, often acts like a charm, relieving suffering, and promoting the beneficial action of other measures. In chronic ophthalmia a few leeches, applied to the forepart of the temple, on a line with the commissure of the eyelids, frequently

produce the happiest result. But I will not consume your time by an enumeration of the different cases of chronic inflammation in which bloodletting might be advantageous. What I have said respecting the lungs, pleura, and eye, is equally applicable to other structures, and needs no further elucidation here.

It requires no labored argument to show that general bleeding can be successfully practised only at the beginning of an acute disease, or during its earlier and gravescent stages. Performed at a later period, when the morbid action is fully established, and the affected tissues are inundated with inflammatory deposits, it cannot fail to do harm by robbing the system of the strength so much needed to carry on its vital processes. A copious bleeding at the onset of a violent inflammatory disease is gold; at its height, lead; or, to express myself more clearly, life in the one case, death in the other.

Secondly, to draw blood to the greatest possible advantage, the quantity should be measured, not by ounces but by the impression it makes upon the system, as denoted by the pallor of the countenance, the reduction of the heart's action, the softened state of the pulse and skin, the abatement of pain and of other symptoms, as headache, thirst, and restlessness, so universally present in all severe inflammatory attacks. To insure this result in the most speedy and decided manner, the blood should be drawn from a large orifice in a large vein at the rate of two and a half to three ounces in the minute, while the patient is in the erect or semi-erect posture. If the body be recumbent during the operation a much larger quantity of blood will be required to be drawn to produce the desired effect than when the reverse is the case. While, therefore, the bleeding should be spoliative, care should be taken not to waste the fluid unnecessarily.

To prevent undue reaction after the operation, the bleeding should not be carried to complete syncope, but merely to an approach to this condition, the effect of the operation being carefully watched by a reference to the countenance and the pulse, lest it should exceed the proper limits, and thus do harm instead of good. Violent reaction, however, in any case, after the abstraction of blood, may generally be effectually prevented by a full dose of some diaphoretic anodyne, as ten grains of Dover's powder with the one-fourth of a grain of morphia, given immediately after the operation.

Respecting the repetition of the operation, every case must, so

to speak, make its own rules. If, after a very copious bleeding, the symptoms rapidly reappear in all, or nearly all, their former intensity, the operation should at once be repeated either by reopening the original orifice or by selecting another vein. In urgent cases, as in violent pneumonia, pleurisy, peritonitis, cerebritis, or endocarditis, the operation may often be repeated several times in rapid succession. Under such circumstances, the practitioner must, like a wary general, make forced marches, and follow up his successes, not waiting until the enemy has entrenched himself behind his works, but strike heavy blows while he has the opportunity.

But I shall be told that such heroic treatment must inevitably induce serious debility. I grant it will; but in turn I ask, will the disease, if neglected or permitted to progress, not also cause debility—debility, perhaps, of the very worst kind, debility from overaction of the heart, imperfect supply of nerve fluid, deranged circulation, impaired function of vital organs, and, above all, from disordered structure from inflammatory deposits? The enlightened practitioner bleeds to save tissue, and to prevent the morbid action from running riot. He repairs strength, when the time for it arrives, by making blood with nutritious food and drink, and thus speedily sets the machinery of life again in motion. The timid, hesitating practitioner, the opponent of bleeding, on the contrary, although he may employ the same restoratives, uses them inopportunately, and thus allows the debility caused by his treatment to linger for an indefinite time, provided the patient is so fortunate as to survive the first onslaught of his disease.

Before I proceed to speak of local bleeding, let us briefly inquire into the mode of action of venesection, or, in other words, how the removal of blood from the system affords relief in inflammatory affections? This question can be easily answered. In the first place, the abstraction acts spoliatively, diminishing, as the name implies, the quantity of blood both in the part and system; secondly, it weakens the powers of the heart, and thereby prevents it from sending the blood with the same force and velocity into the suffering structures; thirdly, it unlocks all the emunctories, and thus promotes secretion; fourthly, it disgorges the vessels at the seat of the disease, restores the circulation, and places the absorbent vessels in a better condition for the removal of effused matter; and last, but not least, it favors the action of other remedies, such as purgatives, diaphoretics, diuretics, and anodynes.

But it will be said that all those effects may and can readily be induced by the agency of other remedies, such as aconite, *veratrum viride*, *digitalis*, mercury, and tartar emetic, and that, too, at much less cost to the system. That these articles are powerful depressants, lowering the heart's action, and promoting secretion, no one at all acquainted with their virtues will question; but I deny that they exercise the same beneficial impression upon the vessels at the seat of the inflammation. When blood is drawn freely from a large vein at the bend of the arm, from a large orifice, to an approach to syncope, the vessels at the seat of the morbid action are unloaded, often to such an extent that the affected structures do not exhibit any marked difference in color from those in their immediate vicinity. Thus, for example, in violent conjunctivitis the mucous membrane, the seat of the disease, always, under such circumstances, presents a perfectly blanched appearance, however red and engorged it may have been the moment before. Now what occurs in the eye, in such a case, may reasonably be supposed to take place in every other part of the body when a patient is bled to a similar extent. In pleurisy one of the immediate effects of the copious abstraction of blood is a mitigation of the torturing pain which forms so prominent a symptom in this disease, due evidently to the diminished calibre of the vessels in the pleura, previously in a state of complete repletion. Has any one ever witnessed such an effect from the exhibition of aconite, *digitalis*, *veratrum viride*, or tartar emetic? Never. No matter how these articles may be administered, whether singly or variously combined, they are simply depressants, not depressants and evacuants, as the abstraction of blood from a vein or an artery; there is no blanching of tissue from their use; no unloading of distended and crippled vessels; indeed, no appreciable effect of any kind.

The more recent researches in pathological histology furnish a hint not easily to be mistaken, as to the most salient treatment of inflammation in its earlier stages. The leading indication is to restore the paralyzed capillaries to their normal tonicity, so as to prevent structural changes in their walls, and facilitate the outward passage of the white globules with which they are choked. It is now well known that in every inflamed area there is marked hyperemic distention of the bloodvessels, which are often crowded to their utmost capacity with leucocytes, which emigrate through the vascular walls, and, in conjunction with the effused blood-liquor, constitute the most important elements in inflammatory deposits.

Hence the object of treatment should be to restore the capillaries to their normal calibre, through the artificial induction of contraction of their walls, an effect which can be brought about, as is daily witnessed in many of the external inflammations, by cold applications, which, as is well ascertained, produce reflex contraction of the vessels. In inflammation of the more deeply-seated organs and tissues, however, this object can only be attained by spoliative bleeding, whereby the affected capillaries are relieved of their contents. In this way only can their tonicity be restored, the further effusion, or migration, of cell-elements restrained, and the absorption of existing deposits favored.

Another effect of bleeding, not to be overlooked in this discussion, is the diminution which it causes in the quantity of fibrin and white globules, so remarkably augmented in inflammatory affections. This change, of which I have witnessed many examples, was beautifully illustrated in the case of a young man, nineteen years of age, whom I attended along with the late Dr. Charles Woodward, of Cincinnati, on account of a severe attack of pleurisy. Blood was drawn on three consecutive days, the first bleeding being performed about thirty-six hours from the commencement of the attack. The fluid, amounting to nearly a quart, was not only greatly buffed but cupped on both sides of the crassamentum, as is shown in the specimen which is still in my possession. At the second operation, the fluid was buffed but not cupped, and at the third it was merely a little sizzly, all pain and active inflammation having by this time disappeared. If such effects follow the use of the articles above mentioned, I am uninformed of the fact.

In leeching and cupping, blood may be taken directly from the affected structures, or indirectly, as when they are practised at a distance from the seat of the inflammation: in the latter case the effect, if carried to a great extent, is similar to that produced in venesection, but generally much more tardy, and, therefore, in the main, not so efficacious. When the tissues are divided, as in incisions, scarification, or puncture, the vessels are directly drained of their contents, an operation often followed by great, if not permanent, relief. Illustrations of the efficacy of this mode of depletion are daily witnessed in tonsillitis, in erysipelas, ulcers of the extremities, inflammation of the uterus, and impending mortification, not to mention other affections.

I have said that general bleeding can be successfully practised, only at the beginning of an inflammatory attack; a fact which, I

repeat it, is not to be lost sight of in weighing the propriety of such a procedure. Let it be borne in mind also that bleeding is not to be practised indiscriminately, but judiciously, and with proper regard to the condition of the system. Our fathers grievously erred, because they bled in every stage of disease, and in all states of the system, the plethoric and the anemic, the strong and the weak. Of course there were exceptions, but as a rule this was the practice; hence the harm, and hence, as a natural consequence of the abuse, the abandonment of the treatment. It is within the recollection of all the older members of this Association, when the practice of medicine in this country and in Great Britain was, in great degree, limited to the lancet, calomel, digitalis, opiates, and tartar emetic, with gruel and chicken broth, as the chief diet during sickness. I well remember the time when the use of cold water was interdicted as highly improper, especially in the treatment of the so-called eruptive fevers, and when ventilation of a sick man's chamber was considered as fraught with danger. Bleeding will again come into fashion; history constantly repeats itself, and knowledge runs in a circle. No sensible man can fail to read the signs of the times; but it will not be indiscriminate bleeding, but bleeding performed for a reason, early, and, if need be, freely, to save tissue, and promote resolution; in the robust and plethoric, in the young and middle-aged, not in the weak, the anemic, the intemperate, the broken-down, and the decrepit. Practitioners during the last third of a century have labored under a delusion and a dream, from which they are gradually emerging to a sense of their duty; and, although I am not a prophet or the son of a prophet, I venture to predict that the day is near at hand, if indeed it has not already arrived, when this important element of treatment, so long and so shamefully neglected, will again become a recognized therapeutic agent, and will thus be instrumental in saving many lives, as well as many an eye, many a lung, many a joint, and many a limb.

But bleeding should not be restricted to the treatment of inflammatory diseases. There are other affections in which it may often be practised with the greatest benefit. In puerperal convulsions, attended with a plethoric condition of the system, copious venesection, promptly followed by the administration of a full anodyne, either alone or in union with chloral and bromide of ammonium and the application of leeches to the temples and cold to the head, is the sheet-anchor of our hopes, a positive *sine quâ non* to success. An experienced and learned member of this Association, Dr. J.

Fordyce Barker, recently recalled attention to this subject in a paper characterized by strong sense and great practical acumen, worthy of his high position as an accomplished gynæcologist. I believe, indeed, that the practice thus set down is the one now generally, if not universally, adopted in the treatment of this dangerous disease, as it was in the time of Dewees and his more enlightened contemporaries. In certain forms of apoplexy the judicious employment of the lancet cannot be too strongly insisted upon, especially in comparatively young and vigorous subjects. Blood in this disease is often taken with leeches when it ought to be drawn with the lancet. In asthma bleeding is frequently of inestimable value, in relieving engorgement and spasm of the lungs, the causes of the terrible dyspnoea so often present in the more aggravated forms of the disease. I recall to mind the case of a lady who was the subject of asthma from the age of fourteen up to that of eighty-six, when she died of pneumonia, whom I repeatedly bled with the greatest advantage in attacks of this kind, which nothing else could relieve. In another case, that of a tall, slender gentleman of this city, nearly eighty years of age, in which a severe attack of asthma was complicated with great congestion and slight inflammation of the lungs, the abstraction of less than ten ounces of blood by the lancet led to speedy convalescence and to a complete cure. I verily believe that if this gentleman had not been bled he would have died. In certain forms of phthisis, venesection, judiciously employed, is frequently productive of great benefit. I allude more particularly to the chronic variety of the disease, kept for years in abeyance by great care and a properly regulated regimen. I remember the case of the late Mr. Benjamin Drake, of Cincinnati, a brother of the great professor, who labored for many years under disease of the lungs associated with tubercular deposits, the more urgent symptoms of which were always promptly relieved by the loss of eight to sixteen ounces of blood by venesection. I have always felt satisfied that his life was materially prolonged by this treatment. Dr. Rush was in the habit, as Sydenham had been before him, of bleeding in every case of phthisis attended with a hard pulse, or a pulse rendered weak by the laborious transmission of blood through the lungs. In one of his cases he bled eighteen times in two weeks, and in another fifteen times in six weeks, with the happiest effect. I do not cite these instances as examples for our imitation, but simply to show that a system, borne down by

disease, may react favorably under what to us of the present day appears as a most heroic measure.

Forty years ago it was customary in protracted labor, dependent upon rigidity of the uterus and of the perineum, to bleed in order to relax the parts and expedite the expulsion of the child. Dewees, in such cases, often took large quantities of blood, especially in young, robust primiparous women, and occasionally even repeated the bleeding. I well remember that this was the general practice for a number of years after I entered the profession. Why it has fallen into desuetude it would be difficult to tell. The abstraction of blood, under such circumstances, was always followed by the exhibition of a large anodyne, under the influence of which the labor usually progressed rapidly to a favorable issue, without subjecting the poor woman to undue torture, the danger of lacerating the perineum, or the necessity of applying the forceps, the use of which is now so common among all classes of accoucheurs.

The plethoric condition of the system, so frequently met with in young, robust pregnant women, is generally promptly relieved by the abstraction of twelve to fifteen ounces of blood; and certainly there is no more rational remedy in such circumstances, especially when redundancy of blood is accompanied by dizziness, vertigo, or headache. Thirty years ago there were few women who were not bled once or twice during utero-gestation on account of these symptoms, and I do not know that I ever heard of one that was injured by the practice.

Certain forms of hysteria and epileptic convulsions, dependent upon congestion of the nervous centres, and a redundancy of blood in the system, are generally materially benefited by venesection. The relief in the former of these affections is often prompt and permanent, as I can testify from personal experience.

In the convulsions of infants bloodletting is frequently of signal service. In that form of the disease which follows upon the more severe attacks of cholera, so rife in our hot summer months, and which are manifestly due to over-excitement of the brain, as is shown by the excessive heat of the head, the flushed condition of the countenance, the suffused eye, the intense thirst, the incessant restlessness, the intolerance of light and noise, and the twitching of the muscles, the abstraction of two to two ounces and a half of blood from the arm in a child from one to two years of age, not only in many cases promptly arrests the vomiting and other

distressing symptoms, but protects the brain from more serious mischief, and thus places the system in a condition for speedy convalescence.

In what is called hay fever a good bleeding sometimes affords immediate alleviation of all the disagreeable suffering incident to that complaint, as dyspnoea, violent sneezing, nasal catarrh, tension in the frontal sinuses, headache, and horripilations, or chilly sensations along the course of the spine. I recollect one case which came under my observation, many years ago, in a clerical gentleman thirty-three years of age, who, on being largely bled one Sunday soon after the close of his religious services, was completely cured for that season; and, although the malady recurred during several consecutive summers afterwards, the attacks were always comparatively light.

Cases have been related of great benefit afforded by bleeding in uremic coma, attended with unconsciousness, dilated and fixed pupils, convulsions, a highly albuminous condition of the urine, and excessive prostration of the system. The blood at first issued feebly, but gradually the stream increased in volume. The fluid assumed a brighter hue, the pulse rose, the convulsions ceased, consciousness returned, and the patient finally made an excellent recovery. Several such examples will be found recorded in the London Medical Times and Gazette for September, 1874, by Dr. Benjamin W. Richardson, in an article "On Bloodletting as a Point of Scientific Practice," and are worthy of special study.

This spring twelve months ago I was requested to visit a lady, a stout, muscular person, in robust health, upwards of forty years of age, who for several years past had suffered much from attacks of headache, attended with dizziness and occasionally also with vertigo. She had tried various remedies without benefit. I suggested bleeding, to which she at once assented, and I drew fully three half pints of blood, with immediate and permanent relief.

Surgeons, the world over, draw blood after severe reaction in concussion of the brain to prevent inflammation of that organ and of its membranes. The more plethoric the patient the greater the necessity for such interference; but the operation should by no means be restricted to this condition, as it is often of great value, if timeously performed, in comparatively anemic subjects. It was a case of concussion of the brain that gave rise to the never-to-be-forgotten conversation between John Hunter and his pupil, Dr. Physick, at the time resident physician at St. George's

Hospital, London. A man laboring under concussion of the brain from a fall from a scaffold was brought into the surgical ward in a state of utter unconsciousness. "What shall I do?" said the pupil to his master. "Shall I bleed him?" "Bleed him? Bleed him, sir? No, sir; you would kill him outright. Wait, sir, until he reacts, and then bleed him—bleed him to death, sir."¹ In compression of the brain from fracture with depression of bone and compression from exhaustion of blood, the abstraction of blood by the lancet and leeches is frequently resorted to for the purpose of securing cerebral accommodation; and the practice, as is well known, is often followed by the most gratifying results.

We all have, at some period or other of our lives, experienced the torturing, racking pains in the back and limbs so common in bilious remittent and intermittent fevers, as if the body were about to be broken in two, causing us to turn and toss about almost incessantly in search of ease, the head being generally at the same time terribly distressed, the skin hot and dry, the thirst intense, and the heart in wild, tumultuous motion. Who that has ever been freely bled in such a condition of the system does not remember with grateful feelings the prompt alleviation afforded by the operation? The application of a dozen wet cups to the aching back has often speedily transported the poor patient, as it were, from torment into Elysium. In gout and rheumatism the abstraction of blood is frequently of immense benefit, if not as a direct curative agent, as a means of relieving pain, and thus paving the way for the more successful action of other remedies. The passage of renal and biliary calculi is often greatly expedited and the suffering caused by it much alleviated, by a copious bleeding, especially in stout, plethoric subjects. But I must stop, for my remarks have already been extended far beyond my original design, which was simply to point out a few of the more prominent diseases in which, in my humble opinion, this much neglected but most valuable therapeutic agent may be advantageously employed.

The fate of bloodletting teaches us an important lesson, not at all calculated to elevate our pride as men intrusted with the preservation of the health and lives of our fellow beings. It shows what little faith there is to be placed in human judgment, and how sadly we are influenced by authority and fashion in a matter pertaining to the dearest interests of society. If I wished

¹ Dr. Charles D. Meigs, in *Pennsylvania Hospital Reports*, vol. i. p. 27, 1868.

to be satirical, I should say that there are in our profession, as there are, indeed, in every other, two, distinct classes of men, the thinking and the non-thinking. The former, whose number is exceedingly limited, accept every novelty or great and sudden change with suspicion, wisely concluding that the one ought not to be adopted until it has been fairly tested by well-conducted observation and experiment, and that the other should not be rejected without sufficient cause. The non-thinking man, on the contrary, eagerly lays hold of every novelty, and seldom stops to seek a reason for his new faith. He adopts it simply because his neighbor adopts it. Especially is this the case when the novelty, whatever it may be, has a distinguished parentage, as when it has received the sanction of a great name, or, perchance, if it had a transatlantic origin. Jones, Robinson, or Brown in Europe is always a greater man, indeed far greater, than his namesake on this side of the water. The non-thinking man confounds progress with improvement. He does not weigh the pros and cons of a question; he takes a shorter route; sees things in a distorted light; assumes for granted things that he cannot comprehend; and jumps at conclusions. As the sheep follows the wether so he follows his master, looks through his spectacles, believes in his infallibility, and swears by his authority. The more the assertion borders on the marvelous the more greedily does he gulp it, so much easier is it to assume the truth of a proposition or statement than to prove it by sound, logical argument and inductive reasoning. I think I am not guilty of exaggeration in what I say. It really seems to me as if we were bereft of our senses. No sooner is a new remedy, a new operation, or a new method of treatment introduced to notice than it is puffed into gigantic proportions, and invested with virtues as foreign to it as any other folly under heaven. Certain it is there never was any greater need for deliberation and reflection, than there is at the present time; greater need of asking ourselves, "Watchman, what of the night"?

